

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C. 20231
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 10 October 2000 (10.10.00)	
International application No. PCT/US00/05983	Applicant's or agent's file reference 7471/JB
International filing date (day/month/year) 08 March 2000 (08.03.00)	Priority date (day/month/year) 09 March 1999 (09.03.99)
Applicant MORT, Paul, R., III	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

07 September 2000 (07.09.00)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
 34, chemin des Colombettes
 1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Kiwa Mpay

Telephone No.: (41-22) 338.83.38

FOR THE PURPOSES OF INFORMATION ONLY

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 7471/JB	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/05983	International filing date (day/month/year) 08/03/2000	(Earliest) Priority Date (day/month/year) 09/03/1999
Applicant THE PROCTER & GAMBLE COMPANY et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

PROCESS FOR PRODUCING COATED DETERGENT PARTICLES

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

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PCT/US 00/05983

IPC 7 C11D11/00 C11D17/06 C11D3/02 C11D3/10

page 1 of 2

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/05983

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 197 13 328 A (HENKEL KGAA) 1 October 1998 (1998-10-01) the whole document -----	1-4,6

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/05983

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5707953	A	13-01-1998	CA 2160900 A	27-10-1994
			DE 69403207 D	19-06-1997
			DE 69403207 T	16-10-1997
			WO 9424260 A	27-10-1994
			EP 0695343 A	07-02-1996
US 4105827	A	08-08-1978	LU 67482 A	21-11-1974
			LU 68831 A	20-08-1975
			AU 6762374 A	09-10-1975
			BE 813645 A	14-10-1974
			BR 7403188 A	30-12-1975
			CH 586160 A	31-03-1977
			DE 2417572 A	14-11-1974
			ES 425334 A	01-06-1976
			FR 2226460 A	15-11-1974
			GB 1466799 A	09-03-1977
			IT 1009862 B	20-12-1976
			JP 1207098 C	11-05-1984
			JP 50121174 A	22-09-1975
			JP 58024361 B	20-05-1983
			SE 414646 B	11-08-1980
			ZA 7402114 A	26-03-1975
WO 9712955	A	10-04-1997	US 5576285 A	19-11-1996
			BR 9610810 A	13-07-1999
			CA 2234086 A	10-04-1997
			CN 1202928 A	23-12-1998
			EP 0858500 A	19-08-1998
			JP 11512775 T	02-11-1999
DE 19713328	A	01-10-1998	NONE	

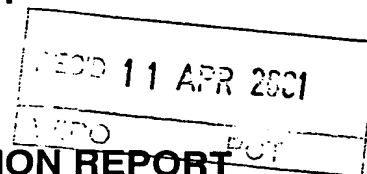
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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference 7471/JB	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/05983	International filing date (day/month/year) 08/03/2000	Priority date (day/month/year) 09/03/1999
International Patent Classification (IPC) or national classification and IPC C11D11/00		
Applicant THE PROCTER & GAMBLE COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07/09/2000	Date of completion of this report 09.04.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Irwin, L Telephone No. +49 89 2399 2527 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/05983

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-5,7-17 as originally filed
6 with telefax of 05/03/2000

Claims, No.:

1-10 with telefax of 05/03/2000

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/05983

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1 - 10
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1 - 10
Industrial applicability (IA)	Yes:	Claims	1 - 10
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/05983

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents (D) are referred to in this communication, and the numbering will be adhered to in the rest of the procedure:

D1: US 5 707 953 A (KOOIJMAN CORNELIS ET AL) 13 January 1998 (1998-01-13)
D2: US 4 105 827 A (BRICHARD JEAN ET AL) 8 August 1978 (1978-08-08)
D3: WO 97 12955 A (PROCTER & GAMBLE) 10 April 1997 (1997-04-10) & US 5 576 285 A (FRANCE PAUL A ET AL) 19 November 1996 (1996-11-19)
D4: DE 197 13 328 A (HENKEL KGAA) 1 October 1998 (1998-10-01)

Novelty:

1. The subject matter of the amended independent claim 1 (concerning a process for the preparation of a coated detergent particle is now considered to be novel since the ratios of the inorganic substances of the double salt now incorporated into claim 1 have not been suggested in the above cited prior art.
2. Subsequently, the remaining dependent claims 2 - 9 are also considered to be novel.
3. The subject matter of the independent claim 10 is presently considered to be novel with the incorporation of the inorganic material Burkeite into the composition.
4. Therefore the claims 1 - 10 are considered to be novel. (*Article 33(2) PCT*).

Inventive Step:

5. The document taken to comprise the closest state of the art has been taken to be D1 since this document also discloses a similar process for the production of a coated bleach composition used for laundering purposes.
6. The subject matter of the independent claim 1 lacks an inventive step since the only novel aspect over the prior art is the double salt and its weight ratio used. Processes

for the preparation of a coated detergent particle following the steps (i) to (iv) are already well known features in the field. See D1 column 3 (lines 23 - 27), column 4 (lines 29 - 47, and 53 - 65), and column 6 (lines 3 - 22); D2 column 1 (lines 42 - 62), column 2 (lines 14 - 27) and column 3 (line 24) with examples 3 - 8. With respect to the use of the double salt, these features are mentioned in D3, see page 4, (lines 21 - 31) in which the double salt can be incorporated into similar compositions. Since the use of such double salts as dry detergent materials are well known in the art, it appears to be an obvious step for a person skilled in the art to experiment with the various options available (e.g. the use of Hanksite as in claims 7 and 10) to see if an improved effect comes about. Such an improvement needs to be shown by experimental comparative testing.

7. The subject matter of the dependent claims 2 - 6, 8, and 9 does not alone provide the process with an inventive step since the surfactant blends, the types of mixers used, and the water soluble non-hydrating inorganic coating materials are substances and methods well known in the art, and thus it appears to be an obvious combination for a man skilled in the art to use. See in particular, D1: column 3 (lines 23 - 27); column 4 (lines 29 - 47 and 53 - 65); column 5 (lines 39 - 56); column 6 (lines 3 - 50); and claims; and D2: column 1 (lines 42 - 62); column 2 (lines 14 - 27); and column 2 (line 40) - column 3 (line 42), with examples 3 - 8.
8. Likewise the use of the fluidized bed mixer with the disengagement plane (as in novel claim 9) is presently not considered to be inventive since there is no added advantage or effect disclosed in the application, nor is there sufficient support to suggest that this is truly an inventive feature, despite the fact that it has not been previously disclosed in the above cited prior art.
9. Therefore the claims 1 - 10 are considered to be not inventive. (*Article 33(3) PCT*).

Re Item VII

Certain defects in the international application

1. Contrary to the requirements of Rule 5.1(a)(ii) of the PCT, the relevant background art disclosed in documents D1 and D2 is not mentioned in the description, nor are

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/05983

these documents identified therein.

2. The amendments made on the replacement page 6 are fine, but the replacement page does not follow on from the original page 5 nor follow on to the original page 7.

be used for drying while an airlift can be used for cooling should it be necessary. The air lift can also be used to force out the "fine" particles so that they can be recycled to the particle agglomeration process.

5 The particles of the present invention comprise at least about 50% by weight of particles having a geometric mean particle diameter of from about 500 microns to about 1500 microns and preferably have a geometric standard deviation of from about 1 to about 2. Preferably the geometric standard deviation is from about 1.0 to about 1.7, preferably from about 1.0 to about 1.4. The granular detergent composition resulting from the processes may comprise fine particles, wherein "fine particles" are defined as particles that have a geometric mean particle diameter that
10 is less than about 1.65 standard deviations below the chosen geometric mean particle diameter of the granular detergent composition. Large particles may also exist wherein "large particles" are defined as particles that have a geometric mean particle diameter that is greater than about 1.65 standard deviations above the chosen geometric mean particle diameter of the granular detergent composition. The fine particles are preferably separated from the granular detergent composition and returned to the process by adding them to at least one of the mixers and/or the fluid bed dryer
15 as described in detail below. Likewise, the large particles are preferably separated from the granular detergent composition and then fed to a grinder where their geometric mean particle diameter is reduced. After the geometric mean particle diameter of the large particles is reduced, the large particles are returned to the process by adding them to at least one of the mixers and/or
20 the fluid bed dryer.

The agglomeration may comprise the step of spraying an additional binder in the mixers to facilitate production of the desired detergent particles. A binder is added for purposes of enhancing agglomeration by providing a "binding" or "sticking" agent for the detergent components. The binder is preferably selected from the group consisting of water, anionic
25 surfactants, nonionic surfactants, polyethylene glycol, polyvinyl pyrrolidone polyacrylates, citric acid and mixtures thereof. Other suitable binder materials including those listed herein are described in Beerse et al, U.S. Patent No. 5,108,646 (Procter & Gamble Co.)

Another optional processing step to form the particle core of the present invention includes continuously adding a coating agent such as zeolites, recycled "fines" as described above
30 and fumed silica to the mixer to improve the particle color, increase the particle "whiteness or facilitate free flowability of the resulting detergent particles and to prevent over agglomeration. When employing recycled fines as the coating agent, the fines are

1. A process for preparing a coated detergent particle by the steps of:
 - i) providing a particle core characterized by a detergent active material;
 - ii) passing said particle core to a coating mixer;
 - iii) providing a coating solution of a water soluble, non-hydrating inorganic material to said coating mixer; and
 - iv) at least partially coating said particle core with said inorganic material in said coating mixer to form a detergent particle, characterized in that said inorganic material is the double salt $\text{Na}_2\text{SO}_4:\text{Na}_2\text{CO}_3$ in a weight ratio of Na_2SO_4 to Na_2CO_3 of from 80:20 to 20:80.
2. The process as claimed in Claim 1, wherein said particle core is characterized by a blend of anionic surfactants and dry detergent ingredients.
3. The process as claimed in any of Claims 1-2, wherein said blend of anionic surfactant and dry detergent ingredients is selected from the group consisting of detergent agglomerates, spray-dried particles, detergent flakes and mixtures thereof.
4. The process as claimed in any of Claims 1-3, wherein said coating mixer is selected from the group consisting of low speed mixers, fluid bed mixers, and combinations thereof.
5. The process as claimed in any of Claims 1-4 wherein said coating mixer is an fluid bed mixer.
6. The process as claimed in any of Claims 1-5, wherein said water soluble, non-hydrating inorganic material is selected from the group consisting of alkali metal carbonate salts, alkali metal sulfate salts and mixtures thereof.
7. The process as claimed in any of Claims 1-6, wherein said water soluble, non-hydrating inorganic material is Burkeite or Hanksite.